REMARKS

In the present Amendment, claims 1, 6 and 11 have been amended to improve their form. No new matter has been added, and entry of the Amendment is respectfully requested.

Claims 1-4, 6-9 and 11 are pending.

Response to Claim Objections

1. In paragraph No. 2 of the Action, claims 1 and 6 are objected to because there is insufficient antecedent basis for the limitations "the vicinity" and "the surface" at lines 5-6 of claim 1 and at lines 6-7 of claim 6.

2. In paragraph No. 3 of the Action, claims 1 and 6 are objected to because there is insufficient antecedent basis for the limitation "the surface" at line 7 of claim 1 and at line 8 of claim 6.

3. In paragraph No. 4 of the Action, claims 4 and 9 are objected to because there is insufficient antecedent basis for the limitation "the surface."

4. In paragraph No. 5 of the Action, claim 11 is objected to because there is insufficient antecedent basis for the limitation "the vicinity of a device separating groove."

As to 1, 2, and 4, the claims have been amended to address the Examiner's concerns. As to 3, Applicants submit that the limitation "the surface" in claims 4 and 9 has sufficient antecedent basis in claims 1 and 6, respectively, since claims 1 and 6 recite that *the group III nitride semiconductor substrate* has a dislocation density in a vicinity of *a surface* thereof of $1 \times 10^7/cm^2$ or less. Accordingly, withdrawal of the objections to the claims is respectfully requested.

Response to Section 103(a) Rejection

In paragraph No. 7 of the Action, claims 1-4, 6-9 and 11 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tadatomo et al (U.S. 6,225,650) in view of Motoki et al (U.S. 2003/0145783).

Applicants submit that this rejection should be withdrawn because Tadatomo et al and Motoki et al do not disclose or render obvious the present invention, either alone or in combination.

In the "Response to Arguments" at page 9 of the Action, the Examiner states that Applicants' arguments filed September 15, 2008 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made based on Tadamoto et al in view of Motoki et al using alternate interpretation.

Tadatomo et al is now cited as disclosing a nitride semiconductor substrate (Fig. 4) comprising *a group III nitride semiconductor substrate (3)* (col. 5, lines 25-26), a mask (21) (col. 5, lines 27-28) formed over the group III nitride semiconductor substrate (3), and a group III nitride semiconductor multilayer film (31) or a film of multilayer GaN (col. 5, line 30) formed above the mask (21).

The Examiner contends that it would have been obvious that the nitride semiconductor substrate disclosed by Tadatomo et al may have a low dislocation density and the mask disclosed by Tadatomo et al may have a polycrystalline material deposited on a surface thereof as disclosed by Motoki et al, because the combined nitride semiconductor substrate could be used for improving device characteristics due to low dislocation density of the substrate, and a

multilayer mask structure for GaN crystal growth is well-known and the polycrystalline material could be used for improving GaN growth.

Applicants respectfully disagree.

The Examiner's proposed combination, namely, that "the nitride semiconductor substrate disclosed by Tadatomo et al may have a low dislocation density and the mask disclosed by Tadatomo et al may have a polycrystalline material deposited on a surface thereof as disclosed by Motoki et al" is based on improper hindsight.

As Applicants disclose, when a mask is provided on a low dislocation substrate and a group III nitride semiconductor is grown thereon, many dislocations develop from the vicinity of the mask (page 6, lines 21-23 of the specification), and the development of this type of dislocation is marked or pronounced when a substrate having a low dislocation density is used (page 6, lines 24-25). And these phenomena become more apparent for a substrate in which dislocations have been reduced to less than $10^7/cm^2$ (page 6, lines 26-27 of the specification).

If the nitride semiconductor substrate disclosed by Tadatomo et al had a low dislocation density as disclosed by Motoki et al, as suggested by the Examiner, many dislocations would develop from the vicinity of the mask.

However, Tadatomo et al discloses that as shown in Fig. 4, the GaN group crystal base member (base substrate **1**, first mask layer **2** and first GaN group crystal layer **3**) is used as a new base substrate M, on which a second mask layer 21 is formed in the same manner as in Fig. 1, thereby *shutting off extension of the dislocation line*, and then a second GaN group crystal layer 31 is grown thereon. In this manner, a *GaN group crystal base member almost without dislocations* can be obtained. See, col. 5, lines 24-32 of Tadatomo et al.

That is, Tadamoto et al already teaches that a *GaN group crystal base member almost without dislocations* can be obtained. Therefore, one skilled in the art would not have been motivated to employ a nitride semiconductor substrate having a low dislocation density in the device of Tadatomo et al, where more dislocations would be generated.

Further, Motoki et al merely discloses that the mask can be made by SiO_2 precipitated with polycrystalline GaN on the surface, in addition to the masks made of SiO_2, Si_3N_4, Pt, W, polycrystalline AlN or polycrystalline GaN. The polycrystalline material on the mask film does not have effects on the dislocation density, in case that a Group III nitride crystal (e.g. GaN) is grown on a substrate which is other than the Group III nitride, e.g. sapphire, GaAs and the like.

Since the mechanism of dislocation generation in the above cases is different from that in the case where a Group III nitride crystal is grown on a substrate of a Group III nitride, it is not clear from the disclosure of Motoki et al that the polycrystalline material on the mask film has effects on the dislocation density, in the case where a Group III nitride crystal is grown on a substrate of a Group III nitride.

Accordingly, one skilled in the art would not have been motivated to apply the mask with polycrystalline material on the surface thereof to the nitride semiconductor substrate disclosed by Tadatomo et al having a low dislocation density, as proposed by the Examiner, since Motoki et al does not teach or suggest that the polycrystalline material could be used for improving GaN growth.

In view of the above, reconsideration and withdrawal of the §103(a) rejection based on Tadatomo et al in view of Motoki et al are respectfully requested.

Allowance is respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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